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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:
KLAUS SCHULTES, ET AL.	: EXAMINER: REDDY, K.
SERIAL NO: 10/539,132	:
FILED: JUNE 16, 2005	: GROUP ART UNIT: 1796
FOR: PROCESS FOR PREPARING AQUEOUS DISPERSIONS	:

REPLY BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

The following Reply Brief is in reply to the Examiner's Answer dated December 30, 2009 (Answer).

The statement of the grounds of the rejection (Answer at 4-15) is identical to the statement in the Office Action dated May 26, 2009 (except the rejections listed under Grounds (F) and (G) in the Appeal Brief, which the Examiner has withdrawn (Answer at 4)), which statement has already been responded to in the Appeal Brief. The following is in reply to the Response to Argument (Answer at 15-18).

In response to Applicants' argument that the prior art compared to is closer to the presently-claimed invention than Hofmann or any of the other applied prior art, the Examiner finds, in effect, that Applicants have not compared to Hofmann, and that comparative examples VB1 and VB2 use a reaction temperature of 52°C, which is outside the presently-recited range of 60 to 90°C while Hofmann discloses a temperature of 80°C (Answer at 15-16).

In reply, in view of the many differences between the presently-claimed invention and Hofmann, which the Examiner acknowledges, comparison with Hofmann *per se* would prove nothing. Compare *Ex parte Humber*, 217 USPQ 265 (Bd. Pat. App. & Inter. 1981) (comparative data showing the claimed chlorine-containing compounds to be unexpected over various (non-prior art) chlorine-containing isomers was accepted as more probative over prior art, drawn to non-chlorine containing analogs of the claimed compounds, asserted to be closest.)

Regarding the difference in temperatures, Hofmann discloses a temperature range of from 0-125°C with about 60-90°C preferred (column 3, lines 17-18). Thus, any temperature within the range disclosed by Hofmann would be expected to produce similar results.

In response to Applicants' argument that neither Hofmann nor De Witt disclose any core/shell structured polymer product that is produced from a dispersion that has a coagulate content of any amount, the Examiner finds that the dispersion of "Hofmann in view of DeWitt would have the instantly claimed coagulation content of 0.1% or less by weight" (Answer at 16).

In reply, this is simply a conclusion with no factual support. The Examiner's stated rationale for combining Hofmann and De Witt is that it would have been obvious to continue the polymerization of Hofmann's first stage until a seed polymer with a size of 20 nm to 200 nm is obtained in view of De Witt. The Examiner has not explained how stopping Hofmann's first stage until a seed polymer of a particular particle size is obtained would have any effect on the ultimate coagulate content.

In response to Applicants' argument that the components for each stage in Hofmann are not present in a form emulsified in water, the Examiner points to the examples of Hofmann, wherein SDOSS (sodium dioctyl sulfosuccinate, an emulsifier) and KPS (1%

$K_2S_2O_8$ in demineralized water) are added in each stage of the polymerization (Answer at 16).

In reply, while such components are added, the corresponding monomers are **not** added in the form of an aqueous emulsion. If the Examiner is relying on the disclosure of KPS, because it is in demineralized water, as creating the emulsion, the KPS is added to initiate reaction (column 5, lines 57-58). Indeed, as can be appreciated from the time charts for the various examples, such as that at column 6, line 56ff, the monomers in each stage are not added as part of an aqueous emulsion.

In response to Applicants' argument that it does not appear from Takarabe et al that the reason for low coagulum content is the added presence of a film forming aid and that there is nothing in the data in Takarabe et al to suggest any effect of the film-forming aid on coagulate content, the Examiner, in essence, states what Takarabe et al discloses, as Applicants have already pointed out at the penultimate paragraph of page 9 of the Appeal Brief. Indeed, it may be due to the presence of the particular high-molecular weight compound as a seed polymer and the relative amounts thereof that provides the significant contribution to the reduction in amount of coagulum, rather than the film forming aid.

In response to Applicants' argument that there is no disclosure in Morningstar et al of a method of preparing a core/shell (meth)acrylate copolymer which is useful as an impact modifier that is produced under the desirable conditions of having a low coagulate content, the Examiner finds that Morningstar et al "is used only for its teaching that addition of a long chain alkyl alcohol in the emulsifier system increases colloidal stability of the polymerization and reduces the amount of coagulum" (Answer at 17).

In reply, the Examiner has not responded to Applicants' argument that while it may reduce the coagulum amount in the copolymer latex in **Morningstar et al**, it is only with the present disclosure as a guide that one of ordinary skill in the art would add it to a system in

which a core/shell polymer is being prepared, and that it could not be predicted what effect the alcohol of Morningstar et al would have on subsequent polymerizations to form the shells of Hofmann once the first stage or seed is formed.

In response to Applicants' argument that Falk et al does not disclose preparation of a core/shell copolymer which should have a low coagulate content, the Examiner finds that Falk et al "is only used for its teaching that addition of styrene-acrylonitrile copolymer to acrylic core-shell copolymers reduces mold shrinkage and improves surface hardness. It is also noted that product claims (instant claims 29-38) only require a core-shell particle and not a process of preparing an aqueous dispersion, comprising core-shell copolymer, having a low coagulate content (Answer at 17-18).

In reply, Applicants rely on their arguments in the Appeal Brief.

Applicants note that the Examiner has responded to some, but not all, of Applicants' arguments in the Appeal Brief. It thus must be assumed that any arguments not responded to are conceded.

Applicants respectfully request that all the rejections not withdrawn be REVERSED.

Respectfully submitted,

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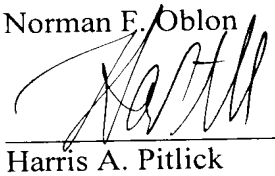
Norman F. Oblon



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